

Notice of Allowability

Application No.

09/825,434

Applicant(s)

CALLAHAN ET AL.

Examiner

Art Unit

Satish S. Rampuria

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 11/05/2004.
2. ☒ The allowed claim(s) is/are 2-55,72-76,84-87,96-100 and 130.
3. ☒ The drawings filed on 04/03/2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

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1. This action is in response to the amendment filed on 11/05/2004.
2. Claims 2-55, 72-76, 84-87, 96-100, and 130 are allowed.

Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance:

The cited prior art taken alone or in combination fail to teach the method for analyzing performance of execution of a task in a computer system including multiple threads of the task, the combination of analyzing generated trace information *by determining from the trace information at least one swap event that occurred in the protection domain during the period of time such that the software program is swapped into the protection domain so as to commence execution of the software program, retrieving for each of the determined swap events an associated value in the trace information of the issued instructions counter of the protection domain, using the retrieved associated values to calculate the value for the number of instructions executed for the software program during the period of time by the protection domain to include only increments to the issued instructions counter that occurred while the software program is swapped into the protection domain* as recited in the dependent claims 2 and 130.

The cited prior art taken alone or in combination fail to teach the method for analyzing performance of execution of a task in a computer system including multiple threads of the task, the combination of analyzing generated trace information *by creating a descriptor object for the specific group of instructions that are added to the source code of the program at the time of execution* as recited in the dependent claims 41, 42, 45, 55, 72, 73, 84, and 100.

The cited prior art taken alone or in combination fail to teach the method for analyzing performance of execution of a task in a computer system including multiple threads of the task, the combination of analyzing generated trace information by *extracting execution information corresponding to the events that occurred during the execution, using a description of specified types of events to identify groups of trace information each reflecting execution of a group of added instructions, using the identified groups and created mapping to extract current values for execution information and modifying current values of events so as to be normalized with respect to beginning of the execution* as recited in the dependent claims 49-54, and 96-99.

Therefore, the claimed invention improves the analyzing of the performance of a program and efficiency of the parallelism during the execution of a program in multithreaded architectures.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Satish S. Rampuria** whose telephone number is **(571) 272-3732**. The examiner can normally be reached on **8:30 am to 6:00 pm** Monday to Friday except every other Friday and federal holidays. Any inquiry of a general nature or relating to the status of this application should be directed to the **TC 2100 Group receptionist: 571-272-2100**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Kakali Chaki** can be reached on **(571) 272-3719**. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Satish S. Rampuria
Patent Examiner
Art Unit 2124
03/21/2005



ANIL KHATRI
PRIMARY EXAMINER